

NOTES ON INDIAN BUTTERFLIES.

BY

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(Continued from Vol. XXVIII, p. 40.)

40. The following additions and corrections are needed to the papers appearing in the Journal on "Butterfly collecting in India" and the "Identification of Indian Butterflies."

- (a) Vol. XXVIII, p. 502 and 747. *Morphids*=*Amathusiidæ* as far as India is concerned. True *Morphids* are S. American.
- (b) Vol. XXIX, p. 231. Under A.I. *Troides* alter 1a to 1b in the 1st and 7th lines: alter 1b to 1a in the 1st and last lines: put 1a, *st seq.* before 1b, *et seq.*
- (c) Vol. XXIX, p. 242. Plate VI, bottom left hand figure, alter A. 12.1 to A. 11.1.
- (d) Vol. XXIX, p. 250: B. 6.1. In the B.M. there are 2 ♂ 1 ♀ of *Delias singhapura*, Wall, from Tavoy. It differs from *agoranis* in having black veins on the hindwing below. Whether *agostina*, *agoranis* and *singhapura* are conspecific is uncertain, but I prefer to regard them as such for the present, though the first two have been caught flying together by Mr. G. R. E. Cooper. The races under B. 6.1 should stand thus:
- α. *singhapura agostina*, M. Sikkim-Dawnas.
β. *singhapura agoranis*, Grs. Dawnas.
γ. *singhapura singhapura*, Wall. Dawnas—S. Burma.
- (e) Vol. XXIX, p. 253. Mr. H. T. G. Watkins investigated the *albina-paulina*—*libythea* group of *Appias* on my behalf in the B.M. last summer. It was found that *zelmira* had been described from the Coromandel Coast and its place must be taken by *olferna*, Swin.: *swinhoei*, M. and *ares*, Swin. (not in my list) also=*libythea*. It may be remarked that, though the extreme dry season male of *libythea* superficially resembles *albina*, it may always be separated easily since there is only one tuft of hairs near the end of the abdomen, instead of two. *venusta* proves to be a *paulina* form and *flava* must be employed for the Ceylon race of *albina*. In Ceylon there are three female forms of *albina*, viz., *flava* yellow above and below: *semiflava* white above, yellow below: the common form, white above and below, for which I propose the name *norma*, nov: *semiflava* is Fruhstorfer's name, not Rober's. *melania* is a distinct Australian species and *paulina* should be substituted as the species name. *paulina* was described from the Coromandel Coast, Java and Tranquebar, while the figure accompanying the description represents a female, which might well appertain to the Javan or Ceylon form, but not to the S. Indian: therefore typical *paulina* should be regarded as Javan and *galene*, Fd., employed for the Ceylon race. The names should stand thus:
- B. 10.4. *libythea libythea*, F. Ceylon, India.
libythea olferna, Swin. Bengal-Assam-Burma.
- B. 10.6. *albina flava*, Rüb. Ceylon.
♀ v. *semiflava*, Fruh.
♀ v. *norma*, Evans.
albina darada, Fd. S. India. Sikkim-Burma.
♀ v. *semiflava*, Fruh.

- B. 10.7. *paulina galene*, Fd. Ceylon.
 ♀ *c. lankapura*, M.
paulina wardii, M. S. India.
paulina adamsoni, M. Burma.
paulina galathea, Fd. Andamans, Nicobars.
- (f) Vol. XXIX, p. 254. The Indian Empire forms of *pyranthe* and *florella* are ;
 B. 11.4. *pyranthe minna*, Herbst.
 B. 11.5. *florella gnoma*, F.
- (g) Vol. XXIX, p. 255. The Burmese race of *verhueli* is not by any means the same as the Malayan *gobrias* and I propose the name *parva*, nov.
 B. 13.1 β. *verhueli parva*, Evans.
- (h) Vol. XXIX, p. 255. Mr. H. T. G. Watkins has pointed out some errors in the genus *Gonepteryx* : the correct names are :
 B. 14. 2. *farinosa chitralensis*, M.
 B. 14. 3. *a. aspasia zaneka*, M.
 β. *aspasia zanekoides*, De N.

41. The following butterflies were obtained by Major F. M. Bailey in August 1916 on the Safed Koh beyond Parachinar and in nearly every case the record extends the previously known range of the butterfly :—

- Parnassius delphius kafir*, Avin. At 13,500 feet.
Pieris callidice kalora, M.
Pieris canidia, Sparr.
Aporia leucodice balucha, M.
Pararge schakra, Koll.
Maniola pulchra, Fd.
Karanasa hubneri, Fd.
Aulocera pedana, Koll.
Aulocera swaha kurrana, Evans.
Voressa urticæ rizana, M.
Vanessa cashmirensis, Koll.
Argynnis kamak, M.
Argynnis adippe jainadeva, M.
Argynnis lathonia issæa, Db.
Zizea maha, Koll.
Polymnatus eros drunela, Swin.
Heodes phlaeas stygianus, But.
Thecla syla, Kollar.
Hesperia alpina, Ersch.

42. The following are new butterflies from Thibet :—

- (a) *Erebia phyllis irma*, nov. ♂ above very dark brown : upf. with the usual area of modified scales on the disc and a large pre-apical black ocellus containing 2 prominent white pupils. ♀ paler brown, the area between the end of the cell and the ocellus tawny, continued under and outside the ocellus. Unf. tawny with ashy borders, ocellus as above, but with pale ashy ring. Unh. mottled brown and white, a very obscure discal and a submarginal irregular black line, between which is a row of obscure small white spots. Expanse 49 mm. Differs from all other forms of *phyllis*, *Leech*, in the ♂ having no fulvous colour above and in the ♀ having no yellow ring to the ocellus. S. E. Thibet, between Bhutan and Gyantse, 13,000 feet, August 1922 ; 2 ♂, 3 ♀ caught by Major F. M. Bailey : types in B. M.
- (b) *Colias cocandica irma*, nov. This name is proposed for the *Colias* figured by me on the plate opposite page 540, vol. XIII, as

- cocandica*. It differs four *cocandica*, *Ersch*, chiefly in size, 54 mm. against 42 mm. The type is in the B. M.
- (c) *Colias pugo*, *nov.* Above ♂ pale yellowish white, ♀ white, veins black dusted, costa forewing red, cilia white. Upf. base black dusted, a black spot end cell: marginal black border broad, one-third of wing, with a central row of large white spots, each of which is joined to the termen by a white line. Uph. basal $\frac{3}{4}$ black, a white spot end cell: border broadly white, divided by black dusted veins. Below costa F and H red. Unf. white, a black ring end cell, apex yellowish green, obscure discal black spots. Unh. greenish yellow, basal $\frac{3}{4}$ black dusted, white spot end cell; margin broadly pale, with dark dusting on either side of the veins. Antennæ and legs red. Expanse 48-50 mm. Much paler than any known form of *cocandica*, *Ersch*, and with larger marginal spots. Smaller than *irma*, *Evans*, which has red cilia: not nearly as dark as *nebulosa*, *Ob.*: differs from *thibetana*, *Riley*, in having the costa red. Nearest of all to *thrasibulus*, *Fruh*, as regards markings, but that species is yellow above. This species was recorded by Mr. R. South in B. N. H. S. Journal, vol. XXII, p. 153, as *Colias nastes*, *Bdv.*, having been obtained by Major F. M. Bailey at Pugo, S. E. Thibet, 14,000 on June 27th, 1911: 3 ♂ 1 ♀ were obtained and the types are in the B. M.
- (d) *Colias montium longto*, *nov.* ♀ above yellowish white, mostly dusted over with black scales. Antennæ, legs, costas and cilia red. Upf. veins prominently black, pale centred black spot end cell: margin broadly black, bearing large pale spots in 1, 2, 4 and 5. Uph. entirely black dusted, a large white spot end cell: large ill defined, black dusted, submarginal pale spots. Unf. white, dusted black scales, complete series discal black spots: white centred spot end cell, apex yellowish green, black dusted. Unh. entirely yellowish green, dusted black scales, red ringed white spot end cell, with an external red tongue and a red streak between base wing and base cell: obscure discal black spots. Expanse 48 mm. Resembles *montium*, *Ob.*, which occurs in S. E. Thibet, but *longto* is paler with more black dusting, resembling somewhat *cocandica*, *Ersch*. 1 ♀, the type in B. M. obtained by Major F. M. Bailey on August 8th, 1922, in Thibet between Bhutan and Gyantse.
- (e) *Lycaena orion tytleri*, *nov.* Above rather as typical *orion*, *Pall*, but much darker, smaller and wings more pointed: no traces of the usual pale submarginal markings. Below marked as in *orion*, the ground colour duller and the orange submarginal markings in consequence much less prominent. Expanse 28-30 mm. obtained by Major-General H. C. Tytler's collector at Gyantse in May 1911. Type ♂ and ♀ in B. M.
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